

REMARKS

Claims 1-24 remain pending in the application.

2. The title of the invention is hereby amended, as required, to state: "Data Loading From a Remote Data Source Record by Record".

3. - 6. Claims 1-24 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1, 5, 9, 13, 17 and 21 have been hereby amended.

7.-9. Claims 1-2, 6-10, 14-18, 22-24 stand rejected under 35 U.S.C. 103(a) as being unpatentable over IBM Corporation ("Datajoiner: a Multidatabase Server Version 1), hereinafter "IBM", and in view of Hejlsberg et al. (US 6,151,602), hereinafter "Hejlsberg".

As per claims 1, 9, 17, Office Action stated that IBM teaches a method, a system and a program storage device for loading data from a remote data source, in a computer system network connecting a source site and a target site via a database connection communication line (See page 11, Fig. 4), the method comprising the following steps:

- "(a) coupling the source site to at least one data source and to a software server having multi-database access to DBMSs" at page 11, Fig. 4;
- "(b) at the target site requesting data loading from the source site via a block of Structured Query Language (SQL) statements or their equivalent" at page 7, Fig. 1; and
- "(c) transporting data via the database connection communication line according to a multi-database access communication protocol" at page 12, 1st paragraph.

The Applicant respectfully objects to this misinterpretation because IBM reference does not have the quoted language. It is the language taken verbatim from the claim 1 of the present invention, with IBM reference page numbers added in brackets.

All independent claims 1, 9 and 17 of the present invention are specifically directed to show an improvement of the IBM Multi-database Server database management system without being limited by physical constraints of the file transfer system at either the source or the target and not bound by the maximum file transfer size. This is accomplished by transporting data record by record, so that operations of sending one record and receiving another record are happening concurrently on a source and target site. Transfer of data from multiple data sources, possibly stored in different formats, is accomplished using existing conventional technology, such as a multi-database software server and Distributed Relational Database Architecture. Thus, developers can transfer data record by record, and record attributes may span multiple data sources and can provide data in neutral data format. Furthermore, they can access any or all of these attributes within a single transaction. These claimed novel structures distinguish over the cited prior art, under 35 U.S.C. 103(a) and are described in Figures and Specification on p.2, p. 3, li. 1-8; p. 6, li. 18-23, p. 7-8, etc. As shown in FIG. 1, both target site and source site have a DBMS, DRDA interface and crossloader software.

Specifically, the independent claim 1 states:

1. A method for loading data from a remote data source record by record, in a computer system network connecting a source site and a target site via a database connection communication line, the method comprising the following steps:

(a) coupling the source site to at least one data source and to a software server having multi-database access to DBMSs;

(b) at the target site requesting data loading from the source site via a block of Structured Query Language (SQL) statements or their equivalent; and

(c) transporting data record by record via the database connection communication line according to a multi-database access communication protocol, wherein the target site loading records concurrently with the unloading of records in the source site.

IBM reference describes a first version of DataJoiner, which is a multi-database server which enables users to define a logically integrated database from heterogeneous, remote data sources (p. 1).

It is noted with appreciation that Examiner held that IBM does not teach transporting data record by record nor the target site loading records concurrently with the unloading of records in the source site as claimed. It stated that Hejlsberg teaches a similar method for loading data from a remote data source (See Fig. 3), wherein data is transported record by record and the target site loading records concurrently with the unloading of records in the source site at Col. 7 lines 30-37. (Examiner notes: Hejlsberg teaches a data packet for transmitting data from a database using sequential or streaming method wherein data is transmitted "one piece of information at a time". At Fig. 3, Hejlsberg shows the layout of a data packet comprises row data, therefore, "piece of information" is correspond to a row data. Hejlsberg also provides the advantage of using this streaming method which "allows the system to process data while it is still being received; this is important, for instance, for data being received across the Internet").

Hejlsberg reference does not teach, show or suggest a software server having multi-database access to DBMSs multi-database access communication protocol, as claimed in elements (a) and (c) of claims 1, 9 and 17. Moreover, Applicant respectfully points out that Hejlsberg reference teaches a platform-independent self-describing data packet creation, which is from a different field. It cannot support a multi-database server and Distributed Relational Database Architecture so it cannot transfer within a single transaction data from multiple data sources, stored in different formats, where record attributes span multiple data sources, which was a long felt need. It has to use the file transfer system, it has a simple system with a dumb client and application server without a DBMS and only its database server has one DBMS, as described as a three-tier system in last paragraph of col. 1 and Fig. 3. It can transport data in packets, but in order to provide system-neutral data, a metadata block, with data format descriptor, has to be supplied in a self-described data packet, making it large, and teaching a data transfer which is very slow and very cumbersome (col. 3, li. 34-43). Because of this, data has to be packed before sending and unpacked when received. It teaches "on demand" delivery, as described in col. 8, li. 1-11, which means that a user has to unpack the first sent packet with metadata, check some parameters and decide whether he wants to receive other packets and, if so, request a fetch next record command, as described in col. 21, li. 35-46. Its sequential access, as defined in col. 7, li. 31-40, teaches that content within each data packet is accessed one piece of information at the time. Col. 20, li. 38-67 describe teachings of the reference as using I/O streams to first collect and stream

out one-by-one each table attribute and then allowing system to begin reading and processing data. It further teaches that processing of data is also happening sequentially, by streaming out record field values. In col. 21, li. 14-34 it describes unpacking at client's side.

Thus, Hejlsberg does not transfer data record-by-record but packet-by-packet, where packets have to contain additional metadata, be pre-packed and unpacked and are cumbersome. Moreover, its loading and unloading is not performed concurrently but with pauses for decision making, wherein the transfer only continues upon explicit request. Moreover, Applicant respectfully suggests that Examiner's citation of Hejlsberg col. 7, li. 30-37 is incorrect because it does not even mention "concurrent" transfer but sequential transfer, which it shows as sending and accessing content within each data packet one piece of data packet metadata information at the time, in col. 7, li. 31-40. Examiner's interpretation of Fig. 3 as "piece of information" corresponding to row data is also incorrect. Fig. 3 does not even show a row. As shown above and throughout Hejlsberg reference, these are not records from a DBMS table, as claimed in the present invention, but metadata attributes, as shown in col. 7, li. 31-40 of reference.

Moreover, Examiner states that Hejlsberg uses a streaming methods which allows data processing while it is still being received. Applicant points out that both actions in Hejlsberg, i.e., processing and receiving, happen on the same, client platform. In the claimed present invention target site loading of records occurs concurrently with the unloading of records in the source site, i.e., processes are loading and unloading of records and they occur on two different sites concurrently.

Next, the Office Action makes an unsupported conclusion that it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine IBM and Hejlsberg's teaching to improve data transmitting speed by "allowing the system to process data while it is still being received".

This sentence is apparently used to show that modification and combination of these two references is allowable to support claims rejection under 35 USC Sec. 103(a). The motivation is stated as: "to improve data transmitting speed by allowing the system to process data while it is

still being received". However, this is not the goal of the claimed present invention but of Hejlsberg reference. As stated above, all independent claims 1, 9 and 17 of the present invention are specifically directed to show an improvement of the IBM Multi-database Server database management system without being limited by physical constraints of the file transfer system at either the source or the target and not bound by the maximum file transfer size. This is accomplished by transporting data record by record, so that operations of sending one record and receiving another record are happening concurrently on a source and target site. Transfer of data from multiple data sources, possibly stored in different formats, is accomplished using existing conventional technology.

Further, Applicant challenges the Office Action "would have been obvious" allegation used to reject all claims of the present invention under Sec. 103 and, as allowed under MPEP Sec. 2144.03, respectfully requests that Examiner cites prior art references which support all these "would have been obvious" allegations and show how modifications can be accomplished and what motivation was used to modify a reference to arrive at the claimed subject matter and to show how this combination of modified references functions and which structure it has. Moreover, since it is required by law that the motivation to combine the references must be found in the referenced prior art before the references can be combined, Applicant respectfully requests evidence supporting this showing.

As stated in MPEP Sec. 706.02(j), 35 U.S.C. 103 authorizes a rejection where, to meet the claim, it is necessary to modify a single reference or to combine it with one or more other references. After indicating that the rejection is under 35 U.S.C. 103, the examiner **should** set forth in the Office action:

- (A) the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line number(s) where appropriate,
- (B) the difference or differences in the claim over the applied reference(s),
- (C) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter, and
- (D) an explanation why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, **there must be a reasonable expectation of success**. Finally, the prior art reference (or references when combined) **must teach or suggest all the claim**

limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Also, see *In re Dembiczak*, 50 USPQ2d (BNA) 1614 (Fed. Cir. 1999) and *Ruiz v. Chance*, 95-1557 (Fed. Cir. 2000). See MPEP Sec. 2143 - 2143.03 for decisions pertinent to each of these criteria.

The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). See MPEP Sec. 2144 - 2144.09 for examples of reasoning supporting obviousness rejections.

Office action is not following this law because the referenced prior art must be from the same field, since the references are obviously not solving the same problem, and a combination or modification must be shown in the prior art itself, which Office Action fails to address. As shown by the Applicant, the teachings of the referenced prior art are not relevant to the claimed invention, the proposed modifications of the applied reference(s) necessary to arrive at the claimed subject matter are not shown, and an explanation about why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification and combination to arrive at the claimed subject matter, with a reasonable expectation of success, was never given.

Further, each cited reference is individually complete and they do not suggest a combination or modification and are impossible to combine and not destroy its individual function and purpose. *Case Amgen, Inc. v. Chugai Pharmaceutical Co.*, 927 F.2d 1200, 18 USPQ2d 1016 (Fed. Cir. 1991) is on point as is the case *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984), which held that where there is no technological motivation for a modification or if a proposed modification of reference would destroy intent, purpose or function of the reference, the prima facie case of obviousness is not properly established. This law was not followed in the Office Action and the compliance with the law is respectfully requested.

The Office action has not established a prima facie case of obviousness because the three basic criteria stated above, which must be met, were not met because it did not point out: to any suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings to arrive at the claimed subject matter, a reasonable expectation of success was not

shown (and is impossible) and that the prior art reference(s), which must teach or suggest all the claim limitations, do so here, which they do not. Furthermore, the Office Action did not satisfy the initial burden to provide some suggestion in the references of the desirability of doing what the inventor has done, because to support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

Furthermore, the cited references are from nonanalogous art. MPEP Sec. 2141.01(a) on Analogous and Nonanalogous Art states:

TO RELY ON A REFERENCE UNDER 35 U.S.C. 103, IT MUST BE ANALOGOUS PRIOR ART

The examiner must determine what is "analogous prior art" for the purpose of analyzing the obviousness of the subject matter at issue. "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference **must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned.**" In re Oetiker, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). See also In re Deminski, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986); In re Clay, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992) ("A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, **logically would have commended itself to an inventor's attention in considering his problem.**"); and Wang Laboratories Inc. v. Toshiba Corp., 993 F.2d 858, 26 USPQ2d 1767 (Fed. Cir. 1993).

PTO CLASSIFICATION IS SOME EVIDENCE OF ANALOGY, BUT SIMILARITIES AND DIFFERENCES IN STRUCTURE AND FUNCTION CARRY MORE WEIGHT

While Patent Office classification of references and the cross-references in the official search notes are some evidence of "nonanalogy" or "analogy" respectively, the court has found **"the similarities and differences in structure and function of the inventions to carry far greater weight."** In re Ellis, 476 F.2d 1370, 1372, 177 USPQ 526, 527 (CCPA 1973) In re Clay, 966 F.2d 656, 23 USPQ2d 1058 (Fed. Cir. 1992) (Claims were directed to a process for storing a refined liquid hydrocarbon product in a storage tank having a dead volume between the tank bottom and its outlet port wherein a gelled solution filled the tank's dead volume to prevent loss of stored product while preventing contamination. One of the references relied upon disclosed a process for reducing the permeability of natural underground hydrocarbon bearing formations using a gel similar to that of applicant to improve oil production. The court disagreed with the PTO's argument that the reference and claimed inventions were part of the same endeavor, **"maximizing withdrawal of petroleum stored in petroleum reserves,"** and found that the inventions involved different fields of endeavor since the reference taught the use of the gel in a different structure for a different purpose under different temperature and pressure conditions, and since the application related to storage of liquid hydrocarbons rather than extraction of crude petroleum. The court also found the reference was **not reasonably pertinent to the problem with which the inventor was concerned** because a person having ordinary skill in the art would not reasonably have expected to solve the problem of dead volume in tanks for refined petroleum by considering a reference dealing with plugging underground formation anomalies.).

The law cited above states that referenced art must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned that logically would have commended itself to an inventor's attention in considering his problem. As is shown in MPEP citation above, *In re Clay* the court defined the endeavor very narrowly as just "a withdrawal of oil" which removes from the field of analogous art all other actions in petroleum industry. Further, it stated that the inventions involved different fields of endeavor since the reference taught the use of the gel in a **different structure** for a **different purpose** under **different** temperature and pressure **conditions**, and since the application related to **storage** of liquid hydrocarbons rather than **extraction** of crude petroleum, as shown in the reference. Thus, the court stated that actions of "storage" and "extraction" are different fields of endeavor and that purpose and conditions are also very important and it held that the reference was not reasonably pertinent to the problem with which the inventor was concerned.

In the Office Action, the methods taught by these two references are different of the present invention and are from different art fields. They cannot handle and do not perform all elements of the independent claims 1, 9 and 17 and, therefore, their dependent claims. Further, they satisfy a different need from a different area. Moreover, it is impossible to modify a simple system of Hejlsberg to include a multi-database access supporting concurrent record loading and unloading, as claimed in independent claims 1, 9 and 17 of the present invention, and it is unnecessary to modify IBM reference to support data packet transfer since it already supports data neutral format. Moreover, each cited reference is individually complete and they do not suggest a combination or modification and are impossible to combine.

Thus, Office Action has not established a prima facie case of obviousness because the three basic criteria stated above, which must be met, were not met because it did not point out: to any suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings to arrive at the claimed subject matter, a reasonable expectation of success was not shown (and is impossible) and that the prior art references, which must teach or suggest all the claim limitations, do so here, which they do not. Furthermore, the Office Action did not satisfy the initial burden to provide some suggestion in the references of the desirability of doing what

the inventor has done, because to support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

Because none of the referenced prior art teaches elements of claims 1, 9 and 17 and their combination is invalid, there is no valid reason for rejection of these independent claims and claims dependent thereof. Therefore, each cited reference, by itself or in combination, cannot be used to invalidate claims 1, 9 and 17 because they fail to teach any and all the steps of these claims. Thus, these references cannot be used to invalidate independent claims 1, 9 and 17 and their dependent claims and a prima facie case of obviousness has not been established under 35 USC Sec. 103(a).

As per claims 2, 10, 18, Office Action stated that IBM and Hejlsberg teach the method, system and program storage device according to claims 1, 9, 17, as discussed above, and that Hejlsberg also teaches: "a data record being transported across the database connection communication line as soon as one or more data records are unloaded from the source site, and data loading at the target site beginning as soon as a record was transported to the target site" at Col. 7 lines 30-36 and Col. 7 line 66 to Col. 8 line 17.

The Applicant respectfully objects to this misinterpretation because Hejlsberg reference does not have the quoted language. It is the language taken verbatim from the claim 2 of the present invention, with Hejlsberg reference page numbers added. As shown above, Hejlsberg reference does not describe concurrent transfer but sequential, processing data on the client while being received by the client, it does not deal with records but packets and their metadata parts and does not transfer "as soon as" but waits for a demand or fetch request.

Moreover, it is shown above that this reference does not perform all elements of the independent claims 1, 9 and 17, and therefore their dependent claims. It is from a different field, does not need or suggest modification and combination with another reference and such combination is

impossible. Further, it satisfies a different need from a different area. Therefore, this reference cannot be used to invalidate dependent claims 2, 10 and 18. Further, Office Action held that IBM reference does not support concurrent record-by-record transfer.

Thus, Office Action has not established a prima facie case of obviousness because the three basic criteria stated above, which must be met, were not met because it did not point out: to any suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings to arrive at the claimed subject matter, a reasonable expectation of success was not shown (and is impossible) and that the prior art references, which must teach or suggest all the claim limitations, do so here, which they do not. Furthermore, the Office Action did not satisfy the initial burden to provide some suggestion in the references of the desirability of doing what the inventor has done, because to support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

Because none of the referenced prior art teaches elements of claims 2, 10 and 18 and their combination is invalid, there is no valid reason for rejection of these dependent claims. Therefore, each cited reference, by itself or in combination, cannot be used to invalidate claims 2, 10 and 18 because they fail to teach any and all the steps of these claims. Thus, these references cannot be used to invalidate these dependent claims and a prima facie case of obviousness has not been established under 35 USC Sec. 103(a).

As per claims 6, 14, 22, Office Action stated that IBM and Hejlsberg teach the method, system and program storage device according to claims 1, 9, 17 as discussed above and that IBM also teaches: "the server site having access to multiple data sources, physically distributed and disparate DBMSs, residing on different hardware systems and possibly storing data in a different format" at page 11, Fig. 4.

It is shown above that these reference do not perform all elements of the independent claims 1, 9 and 17, and therefore their dependent claims. They are from a different field, do not need or suggest modification and combination with another reference and such combination is impossible. Further, they satisfy a different need from a different area. Further, Office Action held that IBM reference does not support concurrent record-by-record transfer. Therefore, these references cannot be used to invalidate dependent claims 6, 14 and 22.

Thus, Office Action has not established a prima facie case of obviousness because the three basic criteria stated above, which must be met, were not met because it did not point out: to any suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings to arrive at the claimed subject matter, a reasonable expectation of success was not shown (and is impossible) and that the prior art references, which must teach or suggest all the claim limitations, do so here, which they do not. Furthermore, the Office Action did not satisfy the initial burden to provide some suggestion in the references of the desirability of doing what the inventor has done, because to support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

Because none of the referenced prior art teaches elements of claims 6, 14 and 22 and their combination is invalid, there is no valid reason for rejection of these dependent claims. Therefore, each cited reference, by itself or in combination, cannot be used to invalidate claims 6, 14 and 22 because they fail to teach any and all the steps of these claims. Thus, these references cannot be used to invalidate these dependent claims and a prima facie case of obviousness has not been established under 35 USC Sec. 103(a).

As per claims 7, 15, 23, Office Action stated that IBM and Hejlsberg teach the method, system and program storage device according to claims 6, 14, 22 as discussed above and that IBM also teaches: "the server site loading data from multiple data sources, further comprising a step for

using a means for consolidating data from multiple data sources" at page 1, 4th and 5th and page 11, Fig. 4.

It is shown above that these reference do not perform all elements of the independent claims 1, 9 and 17, and therefore their dependent claims. They are from a different field, do not need or suggest modification and combination with another reference and such combination is impossible. Further, they satisfy a different need from a different area. Moreover, Office Action held that IBM reference does not support concurrent record-by-record transfer. Therefore, these references cannot be used to invalidate dependent claims 7, 15 and 23.

Thus, Office Action has not established a prima facie case of obviousness because the three basic criteria stated above, which must be met, were not met because it did not point out: to any suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings to arrive at the claimed subject matter, a reasonable expectation of success was not shown (and is impossible) and that the prior art references, which must teach or suggest all the claim limitations, do so here, which they do not. Furthermore, the Office Action did not satisfy the initial burden to provide some suggestion in the references of the desirability of doing what the inventor has done, because to support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

Because none of the referenced prior art teaches elements of claims 7, 15 and 23 and their combination is invalid, there is no valid reason for rejection of these dependent claims. Therefore, each cited reference, by itself or in combination, cannot be used to invalidate claims 7, 15 and 23 because they fail to teach any and all the steps of these claims. Thus, these references cannot be used to invalidate these dependent claims and a prima facie case of obviousness has not been established under 35 USC Sec. 103(a).

As per claims 8, 16, 24, Office Action stated that IBM and Hejlsberg teach the method, system and program storage device according to claims 1, 9, 17 as discussed above and that IBM also teaches: "the database connection communication line utilizing the TCP/IP protocol" at page 11, 3rd paragraph, and "the software server having multi-database access to DBMSs including a Distributed Relational Database Architecture (DRDA)" at page 12, 1st paragraph.

It is shown above that these reference do not perform all elements of the independent claims 1, 9 and 17, and therefore their dependent claims. They are from a different field, do not need or suggest modification and combination with another reference and such combination is impossible. Further, they satisfy a different need from a different area. Moreover, Office Action held that IBM reference does not support concurrent record-by-record transfer. Therefore, these references cannot be used to invalidate dependent claims 8, 16 and 24.

Thus, Office Action has not established a prima facie case of obviousness because the three basic criteria stated above, which must be met, were not met because it did not point out: to any suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings to arrive at the claimed subject matter, a reasonable expectation of success was not shown (and is impossible) and that the prior art references, which must teach or suggest all the claim limitations, do so here, which they do not. Furthermore, the Office Action did not satisfy the initial burden to provide some suggestion in the references of the desirability of doing what the inventor has done, because to support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

Because none of the referenced prior art teaches elements of claims 8, 16 and 24 and their combination is invalid, there is no valid reason for rejection of these dependent claims. Therefore, each cited reference, by itself or in combination, cannot be used to invalidate claims 8, 16 and 24 because they fail to teach any and all the steps of these claims. Thus, these

references cannot be used to invalidate these dependent claims and a prima facie case of obviousness has not been established under 35 USC Sec. 103(a).

10. **Claims 3, 11, 19** stand rejected under 35 U.S.C. 103(a) as being unpatentable over IBM and Hejlsberg as applied to claims 1-2, 6-10, 14-18, 22-24 above, and further in view of Gottenmukkala ("Interfacing Parallel Applications and Parallel Databases"), hereinafter **"Gottenmukkala"**.

As per claims 3, 11, 19, Office Action stated that IBM and Hejlsberg teach the method, system and program storage device according to claims 1, 9, 17 as discussed above, which Applicant showed as incorrect in discussion above. It is noted with appreciation that Office Action held that IBM and Hejlsberg do not explicitly teach: "the data loading being performed in a pipeline manner, loading data records in multiple partitions with a plurality of parallel streams, pointed to by a plurality of data source partition cursors".

Office Action states that Gottenmukkala "teaches a method for perform database query in parallel using cursors (See Fig. 2), wherein "the data loading being performed in a pipeline manner, loading data record in multiple partitions with a plurality of parallel streams, pointed to a plurality of data source partition cursors" at page 2, Col. 1 and Figs. 2-7, and that, thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify IBM and Hejlsberg teaching so that the data loading could be performed in parallel as taught by Gottenmukkala, in order "to speed up the performance of complex queries, which makes manipulation of large data sets feasible and manageable" (page 1, Col. 1, 1st paragraph).

The Applicant respectfully objects to this misinterpretation because Gottenmukkala reference does not have the quoted language. It is the language taken verbatim from the claim 3 of the present invention, with Gottenmukkala reference page numbers added. Further, Gottenmukkala teaches query processing in a parallel database which is a different field from other references and claimed present invention which claims data transfer. Moreover, the reference partitions the query before execution, sends it to different nodes for execution and receives back in the same application the data being sent from the nodes, as cited in col. 1 of p.2. Thus, it does not teach

concurrent record-by-record data transfer into partitioned tables that receive the data, as claimed in the present invention.

Next, the Office Action makes an unsupported conclusion that it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify IBM and Hejlsberg teaching so that the data loading could be performed in parallel as taught by Gottenmukkala, in order "to speed up the performance of complex queries, which makes manipulation of large data sets feasible and manageable" (page 1, Col. 1, 1st paragraph).

This sentence is apparently used to show that modification and combination of these three references is allowable to support claims rejection under 35 USC Sec. 103(a). The motivation is stated as: "to speed up the performance of complex queries, which makes manipulation of large data sets feasible and manageable" (page 1, Col. 1, 1st paragraph). However, this is not the goal of the claimed present invention but of Gottenmukkala reference. As stated above, all independent claims 1, 9 and 17 of the present invention are specifically directed to show an improvement of the IBM Multi-database Server database management system without being limited by physical constraints of the file transfer system at either the source or the target and not bound by the maximum file transfer size. This is accomplished by transporting data record by record, so that operations of sending one record and receiving another record are happening concurrently on a source and target site. Transfer of data from multiple data sources, possibly stored in different formats, is accomplished using existing conventional technology.

Moreover, it is shown above that these reference do not perform all elements of the independent claims 1, 9 and 17, and therefore their dependent claims. They are from a different field, do not need or suggest modification and combination with another reference and such combination is impossible. Further, they satisfy a different need from a different area. Moreover, Office Action held that IBM reference does not support concurrent record-by-record transfer. Therefore, these references cannot be used to invalidate dependent claims 3, 11 and 19.

Thus, Office Action has not established a prima facie case of obviousness because the three basic criteria stated above, which must be met, were not met because it did not point out: to any

suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings to arrive at the claimed subject matter, a reasonable expectation of success was not shown (and is impossible) and that the prior art references, which must teach or suggest all the claim limitations, do so here, which they do not. Furthermore, the Office Action did not satisfy the initial burden to provide some suggestion in the references of the desirability of doing what the inventor has done, because to support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

Because none of the referenced prior art teaches elements of claims 3, 11 and 19 and their combination is invalid, there is no valid reason for rejection of these dependent claims. Therefore, each cited reference, by itself or in combination, cannot be used to invalidate claims 3, 11 and 19 because they fail to teach any and all the steps of these claims. Thus, these references cannot be used to invalidate these dependent claims and a prima facie case of obviousness has not been established under 35 USC Sec. 103(a).

11. Claims 4-5, 12-13, 20-21 stand rejected under 35 U.S.C. 103(a) as being unpatentable over IBM and Hejlsberg as applied to claims 1-2, 6-10, 14-18, 22-24 above, and further in view of Vassilakis et al. ("Implementing Embedded Valid Time Query Languages"), hereinafter "Vassilakis".

As per claims 4, 12, 20, Office Action stated that IBM and Hejlsberg teach the method, system and program storage device according to claims 1, 9, 17 as discussed above, which Applicant showed as incorrect in discussion above. It is noted with appreciation that Office Action held that IBM and Hejlsberg do not explicitly teach: "the block of SQL statements comprises dynamic executable SQL statements performing in the EXECUTE IMMEDIATE mode".

Next, Office Action stated that, however, Vassilakis "teaches a method of using SQL to retrieve data from database "a row-at-a-time" similar to IBM and Hejlsberg teaching wherein "the block of SQL statements comprises dynamic executable SQL statements performing in the EXECUTE IMMEDIATE mode" at page 7. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement IBM and Hejlsberg's teaching in "EXECUTE IMMEDIATE mode" in order to process the dynamic formulated SQL statement."

The Applicant respectfully objects to these misinterpretations because the quoted language is not "similar to IBM and Hejlsberg teaching". Further, Vassilakis reference does not have the quoted language. It is the language taken verbatim from the claim 4 of the present invention, with Vassilakis reference page numbers added as page 7. Further, Vassilakis teaches implementing of embedded valid time query languages which is a different field from other references and claimed present invention which claims data transfer. Thus, it does not teach concurrent record-by-record data transfer in a multi-database DBMS, as claimed in the present invention.

Next, the Office Action makes an unsupported conclusion that it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement IBM and Hejlsberg's teaching in "EXECUTE IMMEDIATE mode" in order to process the dynamic formulated SQL statement."

This sentence is apparently used to show that modification and combination of these three references is allowable to support claims rejection under 35 USC Sec. 103(a). The motivation is stated as: " to process the dynamic formulated SQL statement." However, this is not the goal of the claimed present invention but of Vassilakis reference. As stated above, all independent claims 1, 9 and 17 of the present invention are specifically directed to show an improvement of the IBM Multi-database Server database management system without being limited by physical constraints of the file transfer system at either the source or the target and not bound by the maximum file transfer size. This is accomplished by transporting data record by record, so that operations of sending one record and receiving another record are happening concurrently on a source and target site. Transfer of data from multiple data sources, possibly stored in different formats, is accomplished using existing conventional technology.

Moreover, it is shown above that these reference do not perform all elements of the independent claims 1, 9 and 17, and therefore their dependent claims. They are from a different field, do not need or suggest modification and combination with another reference and such combination is impossible. Further, they satisfy a different need from a different area. Moreover, Office Action held that IBM reference does not support concurrent record-by-record transfer. Therefore, these references cannot be used to invalidate dependent claims 4, 12 and 20.

Thus, Office Action has not established a prima facie case of obviousness because the three basic criteria stated above, which must be met, were not met because it did not point out: to any suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings to arrive at the claimed subject matter, a reasonable expectation of success was not shown (and is impossible) and that the prior art references, which must teach or suggest all the claim limitations, do so here, which they do not. Furthermore, the Office Action did not satisfy the initial burden to provide some suggestion in the references of the desirability of doing what the inventor has done, because to support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

Because none of the referenced prior art teaches elements of claims 4, 12 and 20 and their combination is invalid, there is no valid reason for rejection of these dependent claims. Therefore, each cited reference, by itself or in combination, cannot be used to invalidate claims 4, 12, 20 because they fail to teach any and all the steps of these claims. Thus, these references cannot be used to invalidate these dependent claims and a prima facie case of obviousness has not been established under 35 USC Sec. 103(a).

As per claims 5, 13, 21, Office Action stated that IBM and Hejlsberg teach the method, system and program storage device according to claims 1, 9, 17 as discussed above, which Applicant showed as incorrect in discussion above.

It is noted with appreciation that Examiner held that IBM and Hejlsberg do not teach: "the block of SQL statements comprises: a SQL DECLARE CURSOR FOR SELECT statement, for defining a cursor referencing separately each SELECT statement result record unloading from the server site, and a LOAD command and an operator INCURSOR with the same cursor name for pointing to the receiving record at the target site".

Office Action stated that, however, Vassilakis teaches a method of using SQL to retrieve data from database "a row-at-a-time" similar to IBM and Hejlsberg's teaching using "a SQL DECLARE CURSOR FOR SELECT statement, for defining a cursor referencing separately each SELECT statement result record unloading from the server site, and a LOAD command and an operator INCURSOR with the same cursor name for pointing to the receiving record at the target site" at page 2, section 2.2, and that, as noted by Vassilakis, "using cursors, an application may obtain addressability to tuples stored in the database (one tuple at a time), fetch data values into its address space, as well as delete or modify the tuples"(page 3, section 2.2), and that, thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Vassilakis with IBM and Hejlsberg's teaching in order to allow applications to address considered database data at row level (i.e. tuple level) instead of data table level, in order to reduce unnecessary data transfer by transferring only relevant rows instead of the whole table.

The Applicant respectfully objects to these misinterpretations because the quoted language is not "similar to IBM and Hejlsberg teaching". Further, Vassilakis reference does not have the quoted language. It is the language taken verbatim from the claim 5 of the present invention, with Vassilakis reference page numbers added. Further, Vassilakis teaches implementing of embedded valid time query languages which is a different field from other references and claimed present invention which claims data transfer. Thus, it does not teach concurrent record-by-record data transfer in a multi-database DBMS, as claimed in the present invention.

Next, the Office Action makes an unsupported conclusion that it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Vassilakis with IBM and Hejlsberg's teaching in order to allow applications to address considered database data at

row level (i.e. tuple level) instead of data table level, in order to reduce unnecessary data transfer by transferring only relevant rows instead of the whole table.

This sentence is apparently used to show that modification and combination of these three references is allowable to support claims rejection under 35 USC Sec. 103(a). The motivation is stated as: " in order to allow applications to address considered database data at row level (i.e. tuple level) instead of data table level, in order to reduce unnecessary data transfer by transferring only relevant rows instead of the whole table." However, reduction of unnecessary data transfer by transferring only relevant rows instead of the whole table is not the goal of the claimed present invention but of Vassilakis reference. As stated above, all independent claims 1, 9 and 17 of the present invention are specifically directed to show an improvement of the IBM Multi-database Server database management system without being limited by physical constraints of the file transfer system at either the source or the target and not bound by the maximum file transfer size. This is accomplished by transporting data record by record, so that operations of sending one record and receiving another record are happening concurrently on a source and target site. Transfer of data from multiple data sources, possibly stored in different formats, is accomplished using existing conventional technology.

Moreover, it is shown above that these reference do not perform all elements of the independent claims 1, 9 and 17, and therefore their dependent claims. They are from a different field, do not need or suggest modification and combination with another reference and such combination is impossible. Further, they satisfy a different need from a different area. Moreover, Office Action held that IBM reference does not support concurrent record-by-record transfer. Therefore, these references cannot be used to invalidate dependent claims 5, 13 and 21.

Thus, Office Action has not established a prima facie case of obviousness because the three basic criteria stated above, which must be met, were not met because it did not point out: to any suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings to arrive at the claimed subject matter, a reasonable expectation of success was not shown (and is impossible) and that the prior art references, which must teach or suggest all the

claim limitations, do so here, which they do not. Furthermore, the Office Action did not satisfy the initial burden to provide some suggestion in the references of the desirability of doing what the inventor has done, because to support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

Because none of the referenced prior art teaches elements of claims 5, 13 and 21 and their combination is invalid, there is no valid reason for rejection of these dependent claims. Therefore, each cited reference, by itself or in combination, cannot be used to invalidate claims 5, 13, 21 because they fail to teach any and all the steps of these claims. Thus, these references cannot be used to invalidate these dependent claims and a prima facie case of obviousness has not been established under 35 USC Sec. 103(a).

Regarding claims 1-24, none of the cited references teaches, shows, suggests or is even remotely related to pre-processing of existing access plans to augment op. code with pointers, as claimed by the present invention. Therefore, these reference cannot be used to invalidate independent claims 1, 9, and 17 and their dependent claims. Moreover, the Examiner combined references from different arts in order to reject claims 1-24, by quoting parts of sentences nonexistent in those references. However, even if these quotes are correct, the combination must be pointed to in the prior art itself and no such combination is pointed to in the cited references nor it could be since they are from different fields. Therefore, these references cannot be used to invalidate independent claims 1, 9 and 17 and their dependent claims because they fail to teach any and all the steps of these claims.

Therefore, all submitted claims are allowable over the cited references and their reconsideration is respectfully requested. Improper combination of cited references is used in each claim rejection in the Office Action. None of the cited references suggests combination under *In re Sernaker*, 217 U.S.P.Q. 1, 6 (CAFC 1983), and one skilled in the art would have no reason to make a combination since they are from different fields, impossible to combine and individually

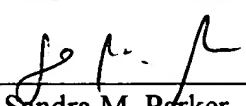
complete. Moreover, none of the cited references discloses the subject matter and features of claims 1-24 of the present invention and even if they did show some individual features, they would not be able to meet the claims of the present invention which provide new and unexpected results over these references and are thus unobvious and patentable under Sec. 103.

12. The prior art made of record and not relied upon but considered pertinent to Applicants' disclosure has been reviewed but found to be even less relevant than the cited references.

In view of the above, it is submitted that this application is now in good order for allowance, which applicant respectfully solicits. Should matters remain which the Examiner believes could be resolved in a telephone interview, the Examiner is kindly requested to telephone the Applicant's undersigned attorney. No additional fee is required in connection with this communication since the Amendment is mailed within three months from the Office Action and the number of claims is not extending the original number of claims. However, any underpayment is authorized to be charged to Deposit Account Number **09-0460** in the name of IBM Corporation.

Respectfully submitted,

Date: July 9, 2004



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